

Claims

1. Receiver for receiving optically transmitted signals, with an optical/electrical converter , an electronic feedback filter and at least one eye monitor for determining the quality of the transmission link, the output of the at least one eye monitor being connected to the input of the electronic feedback filter.
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- 10 2. Receiver according to Claim 1, with two eye monitors , the outputs of which are connected to the inputs of a DFE , the two eye monitors measuring the eye opening of the signal and outputting it as a parameter signal.
- 15 3. High-speed eye monitor with threshold-value decision elements, the threshold values of which are set close to the vertices of the eye of an eye diagram and thereby generate pseudo-errors, with a signal comparator for comparing the correctly decided signal with the signal altered by the pseudo-error, with integrators for adding the pseudo-errors and regulators which correct internal control variables in comparison with setpoint values, and with a output threshold values.
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- 25 4. High-speed eye monitor according to Claim 3, the setpoint values being superimposed by small-signal components.
- 30 5. High-speed eye monitor according to Claim 3, the results of the measurement of the eye opening and the small-signal response being used in the internal control variables for determination of the Q-factor.
- 35 6. Method for measuring the eye opening of an eye diagram, consisting of the following steps:
- Determination of the garbled signal with two threshold

values which correspond approximately to the vertices of the eye opening,

In each case, generation of a data signal with pseudo-errors and detection of the errors through comparison with the correct signal ,adding of the errors through integration

Comparison of each of the pseudo-error rates with a setpoint value,

Readjustment of the deviating quantities and output of the differential signal of the threshold values (eye edges) as a measurement value.

7. Method for determining a garbled signal:

Determination with a feedback filter which makes decisions on the basis of set threshold values and on the basis of already determined signals,

Determination of the eye opening of the signal with two eye monitors which determine the eye edges at the vertices of the signal and supply the measurement to the adaptive element (feedback filter) as a parameter,

Setting of the threshold values of the threshold value decision elements in the feedback filter, the parameters $V_{\text{eye_upper}}$ and $V_{\text{eye_lower}}$ being used for setting of the threshold values so that the signal is determined in the eye optimum.